

Name: \_\_\_\_\_

Exam Style Questions

Combined Mean



Corbettmaths

Equipment needed: Pen, Calculator

### Guidance

1. Read each question carefully before you begin answering it.
2. Check your answers seem right.
3. Always show your workings

Video Tutorial

[www.corbettmaths.com/contents](http://www.corbettmaths.com/contents)

Video 53a



Answers and Video Solutions



1. Walter has 5 baskets of apples.



There are 9 apples in each of three of the baskets.  
There are 24 apples in each of the other two baskets.

Work out the mean number of apples per basket.

$$\begin{array}{r} 9 \times 3 = 27 \\ 24 \times 2 = 48 \\ \hline 75 \end{array}$$
$$\begin{array}{r} 15 \\ 5 \overline{) 75} \\ \underline{5} \phantom{0} \\ 25 \\ \underline{25} \\ 0 \end{array}$$

15

.....  
(2)

2. There are 20 houses in Firfields and 80 houses in Meadowlands.



The mean number of cars per house in Firfields is 1.5  
The mean number of cars per house in Meadowlands is 2

Work out the mean number of cars per house in both villages.

$$\begin{array}{r} 20 \times 1.5 = 30 \\ 80 \times 2 = 160 \\ \hline 190 \end{array}$$

$$190 \div 100 = 1.9$$

1.9

.....  
(3)

3. In Tia's pencil case she has



6 pencils that have a mean mass of 7g  
10 pens that have a mean mass of 12g  
4 markers with a mean mass of 15g

Find the mean mass of the 20 items in Tia's pencil case.

$$6 \times 7 = 42$$

$$10 \times 12 = 120$$

$$4 \times 15 = 60$$
$$\begin{array}{r} + \\ \hline 222 \end{array}$$

$$\begin{array}{r} 011.1 \\ 20 \overline{)222.0} \end{array}$$

$$222 \div 20 = 11.1$$

$$\begin{array}{r} 11.1g \\ \hline \end{array} \quad (3)$$

4. A tennis club has 165 adult and child members.



The mean age of the 55 child members is 14.8 years.  
The mean age of the 110 adult members is 40.7 years

Calculate the mean age of all 165 members.

$$55 \times 14.8 = 814$$

$$110 \times 40.7 = 4477$$
$$\begin{array}{r} + \\ \hline 5291 \end{array}$$

$$5291 \div 165 = 31.8$$

$$\begin{array}{r} 31.8 \\ \hline \end{array} \quad (3)$$

5.



There are 25 students in Class A and 15 students in Class B.  
All 40 students sit a test.

The mean score for the students in Class A was 81%  
The mean score for the students in Class B was 87%

Find the mean score of all the students.

$$25 \times 81 = 2025$$

$$15 \times 87 = \begin{array}{r} 1305 \\ + \\ \hline 3330 \end{array}$$

$$3330 \div 40 = 83.25$$

$$\underline{\underline{83.25\%}}$$

(3)

6.



15 adults and 25 children complete a maze.  
The length of time it took each person was recorded.

The mean time taken by all 40 people was 21 minutes.  
The mean time taken by the 15 adults was 26 minutes.

Work out the mean time taken by the 25 children.

$$15 \times 26 = 390$$

$$40 \times 21 = 840$$

$$840 - 390 = 450$$

$$450 \div 25 = 18$$

$$\underline{\underline{18 \text{ mins}}}$$

(3)

7. In a class, there are 12 girls and 16 boys.



In a test, the mean mark for the boys is 32  
The mean mark for the whole class is 35

Work out the mean mark for the girls.

$$\begin{array}{r} 28 \times 35 = 980 \\ 16 \times 32 = \underline{512} \\ 468 \end{array}$$

$$468 \div 12 = 39$$

39

(3)

8. There are 30 boys and girls in a class.



The ratio of boys to girls in the class is 2 : 3

The mean height of the girls is 1.64m

The mean height of all 30 students is 1.7m

Work out the mean height of the boys.

$$2 + 3 = 5$$

$$30 \div 5 = 6$$

$$6 \times 2 = 12 \text{ boys}$$

$$6 \times 3 = 18 \text{ girls}$$

$$18 \times 1.64 = 29.52$$

$$30 \times 1.7 = 51$$

$$51 - 29.52 = 21.48$$

$$21.48 \div 12 = 1.79$$

1.79m

(4)

9. Mr Henderson owns two shops, A and B.



The table below shows information about the number of customers each shop had one afternoon and the mean amount of money spent.

	Shop A	Shop B
Customers	305	424
Mean spend	£3.80	£5.97

Mr Henderson is going to run a promotion where a customer is given a voucher if they spend over £5.

Mr Henderson says that the mean spend by all of the customers in both shops was more than £5

Is he correct?

Explain your answer

$$305 \times 3.80 = 1159$$

$$305 + 424 = 729$$

$$424 \times 5.97 = 2531.28$$

$$\underline{\hspace{1.5cm}} \\ 3690.28$$

$$3690.28 \div 729 = 5.06211\dots \quad \text{£}5.06 \text{ to nearest penny}$$

Yes, the mean spend in both shops is £5.06, which is more than £5.

(5)

10. A football squad has 3 goalkeepers, 8 defenders, 9 midfielders and 5 forwards.



The mean height of all 25 footballers is 181cm  
The mean height of the 3 goalkeepers is 188cm  
The mean height of the 8 defenders 187cm  
The mean height of the 9 midfielders is 176cm

Work out the mean height of the 5 forwards.

$$25 \times 181 = 4525$$

$$3 \times 188 = 564$$

$$8 \times 187 = 1496$$

$$9 \times 176 = 1584$$

$$564 + 1496 + 1584 = 3644$$

$$4525 - 3644 = 881$$

$$881 \div 5 = 176.2$$

$$\frac{176.2 \text{ cm}}{(4)}$$